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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,967	03/21/2006	Andrew J. Hardwick	36-1962	4570
23117 7590 12/01/2011 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
SADIO, INSA				
ART UNIT		PAPER NUMBER		
2629				
MAIL DATE		DELIVERY MODE		
12/01/2011		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/572,967

**Applicant(s)**

HARDWICK, ANDREW J.

**Examiner**

INSA SADIO

**Art Unit**

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 5) ☒ Claim(s) 1-10 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-10 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/c3)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed on 05/10/2011 has been considered by Examiner.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al.(US Patent Number 5,734,373), hereinafter referenced as Rosenberg, in view of Wang et al. (US Publication Number 2005/0125150), hereinafter referenced as Wang.

**As of claim 7**, Rosenberg discloses a Method and apparatus for controlling human-computer interface systems providing force feedback. Further, Rosenberg teaches wherein an interactive haptic output terminal in combination with a bi-directional transmission arrangement (see col2 L5-34), the terminal comprising at least a haptic output device and control means (see col8 L15-34), said control means receiving signals from said haptic output device to determine a current position for said device (see col3 L3-55, fig.4 [92]), and to determine from signals received from said transmission arrangement a preferred current position for said haptic

output device (see col4 L6-17, L37-63, figs. 5 and 20), said control mean determining an output force and direction required to move said haptic output device from the current position to the preferred position (see col4 L6-17, L37-63, figs. 5 and 20).

Rosenberg does not teach wherein said **storing historic positional data defining each of a multiplicity of positions to which the haptic output device has moved; deriving a model of the space in which directional forces are being applied at said one location and storing data defining said model; deriving from the historic positional data and the data defining the model an anticipated position and generating output signals defining force and direction to move the haptic output device towards said anticipated position and correcting for differences between the anticipated position and the transmitted position on receipt of subsequent positional data.**

However, Wang teaches wherein said storing historic positional data(held history data) defining each of a multiplicity of positions to which the haptic output device(force feedback or haptics input device) has moved(see Figs. 1, 8-8b; claims 62, 71; [0021, 0023, 0029, 0045, 0055, 0065,0096, 0098]; deriving a model of the space in which directional forces are being applied at said one location and storing data defining said model([0055, 0061, 0094, 0096, 0097, 0098, 0100]; deriving from the historic positional data and the data defining the model an anticipated position and generating output signals defining force and direction to move the haptic output device towards said anticipated position and correcting for differences between the anticipated position and the transmitted position on receipt of subsequent positional data([0006, 0064, 0067] ."

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rosenberg's human-computer interface system with the teaching of Wang's model of space to apply directional forces, because this will help users to anticipate positions of haptic output device.

**As of claim 8**, Rosenberg as modified by Wang teaches the limitations of claim 7 above. Further, Rosenberg teaches wherein said a terminal in which the control means receives signals from the haptic output device(see col3 L24-42, col8 L25-37), said signals containing data defining the position of said device at any particular time, said control means converting said data to signals for transmission to said bi-directional transmission arrangement at predetermined intervals (see col7 L39-55, col35 L12-32).

**As of claim 9**, Rosenberg as modified by Wang teaches the limitations of claim 7 above. Further, Rosenberg teaches wherein said a terminal in which the signals defining a preferred current position are generated by an environment simulator, for example a programmed computer (see col6 L24-42).

**As of claim 10**, Rosenberg as modified by Wang teaches the limitations of claim 7 above. Further, Rosenberg teaches wherein said a terminal in which the signals defining a preferred current position are generated by a corresponding interactive output terminal at the opposed end of the transmission arrangement (see col6 L19-34).

**As of claim 1, 2, and 3**, claims 1, 2, and 3 are rejected the same as claim 7. Only, claims 1, 2 and 3 are method claims.

**As of claim 4**, Rosenberg as modified by Wang teaches the limitations of claim 1 above. Further, Rosenberg teaches wherein said the method of in which latency of the

network is determined by transmitting a data packet to the network said packet including a time determinant identity (see col20 L8-34 ), reflecting the data packet through the network and comparing the received time with the transmitted time to provide a latency parameter from which said damping factor is determined (see col21 L8-34).

**As of claim 5**, Rosenberg as modified by Wang teaches the limitations of claim 4 above. Further, Rosenberg teaches wherein said the method in which at least some transmitted packets carrying positional data also include the time determinant data, some of said time determinant data being returned to permit updating of the latency parameter (see col20 L22-col21 L16, col 18 L7-41).

**As of claim 6**, Rosenberg as modified by Wang teaches the limitations of claim 1 above. Further, Rosenberg teaches wherein said The method of further including applying a modifying factor to the force and direction signals, said modifying factor being derived from predetermined user preference data (see col.9, L43-65).

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to INSA SADIO whose telephone number is (571)270-5580. The examiner can normally be reached on MONDAY through FRIDAY 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LunYi Lao can be reached on 571-272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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